

(FILE 'HOME' ENTERED AT 15:11:04 ON 18 JAN 2006)

FILE 'REGISTRY' ENTERED AT 15:11:33 ON 18 JAN 2006

L1 STRUCTURE UPLOADED

L2 17 S L1

L3 4322 S L1 FULL

FILE 'CAPLUS' ENTERED AT 15:13:35 ON 18 JAN 2006

L4 37838 S (25085-98-7# OR 2386-87-0# OR 1675-54-3# OR 25085-99-8# OR 25
S EP/PCT

FILE 'REGISTRY' ENTERED AT 15:14:29 ON 18 JAN 2006

L5 48021 S EP/PCT

FILE 'CAPLUS' ENTERED AT 15:14:30 ON 18 JAN 2006

L6 73543 S L5

L7 212119 S GLYCIDYL? OR MONOGLYCIDYL? OR MONOEPOX!### OR (EPOX!?(3A) (RES

L8 221098 S L4 OR L6 OR L7

L9 23 S L3 AND L8

FILE 'REGISTRY' ENTERED AT 15:26:18 ON 18 JAN 2006

L10 1 S 96990-63-5#/RN

L11 1 S 176310-31-9#/RN

L12 1 S 176310-33-1/RN

L13 1 S 176310-35-3/RN

L14 1 S 176310-36-4/RN

L15 1 S 156458-07-0#/RN

L16 3 S (9885-60-0# OR 118978-97-5# OR 129318-44-1# OR 705243-62-5# O

FILE 'CAPLUS' ENTERED AT 15:35:10 ON 18 JAN 2006

L17 2 S (9885-60-0# OR 118978-97-5# OR 129318-44-1# OR 705243-62-5# O

FILE 'REGISTRY' ENTERED AT 15:40:43 ON 18 JAN 2006

L18 STRUCTURE UPLOADED

L19 16 S L18

L20 4212 S L18 FULL

L21 1 S 610312-93-1/RN

FILE 'CAPLUS' ENTERED AT 15:47:23 ON 18 JAN 2006

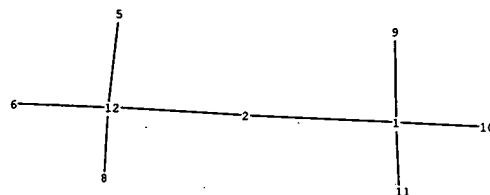
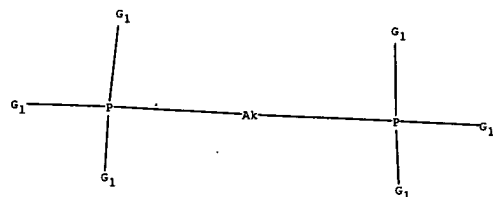
L22 3 S (672289-95-1# OR 610312-93-1#)/RN

L23 22 S L8 AND L20

L24 15 S L23 NOT L9

FILE 'REGISTRY' ENTERED AT 15:53:07 ON 18 JAN 2006

L25 1 S 286401-41-0/RN



chain nodes :

1 2 5 6 8 9 10 11 12

chain bonds :

1-2 1-9 1-10 1-11 2-12 5-12 6-12 8-12

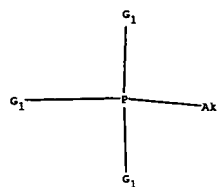
exact/norm bonds :

1-2 1-9 1-10 1-11 2-12 5-12 6-12 8-12

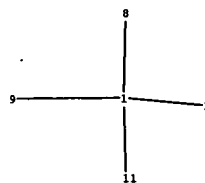
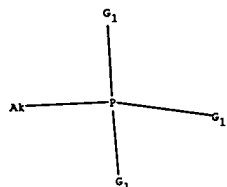
G1:C,CH3,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu,Ph,o-C6H4,m-C6H4,p-C6H4,Cy,Ak

Match level :

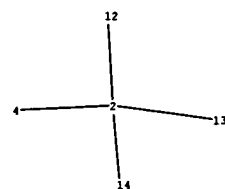
1:CLASS 2:CLASS 5:CLASS 6:CLASS 8:CLASS 9:CLASS 10:CLASS 11:CLASS
12:CLASS



Cb



5



chain nodes :

1 2 3 4 5 8 9 11 12 13 14

chain bonds :

1-3 1-8 1-9 1-11 2-4 2-12 2-13 2-14

exact/norm bonds :

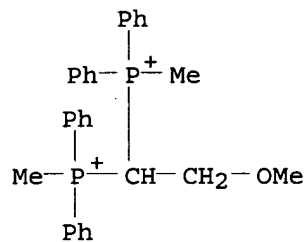
1-3 1-8 1-9 1-11 2-4 2-12 2-13 2-14

G1:C,CH3,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu,Ph,o-C6H4,m-C6H4,p-C6H4,Cb,Ak

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:Atom 8:CLASS 9:CLASS 11:CLASS
12:CLASS 13:CLASS 14:CLASS

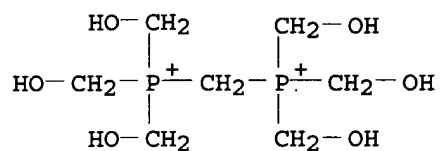
RN 98885-60-0 REGISTRY
 ED Entered STN: 02 Nov 1985
 CN Phosphonium, (2-methoxyethylidene)bis[methyldiphenyl-, diiodide (9CI) (CA
 INDEX NAME)
 MF C29 H32 O P2 . 2 I
 SR CA
 LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
 (*File contains numerically searchable property data)
 CRN (98885-61-1)



● 2 I⁻

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

RN 118978-97-5 REGISTRY
 ED Entered STN: 10 Feb 1989
 CN Methylenebis[tris(hydroxymethyl)phosphonium iodide] (6CI) (CA INDEX NAME)
 MF C7 H20 O6 P2 . 2 I
 SR CAOLD
 LC STN Files: CA, CAOLD, CAPLUS
 CRN (732214-37-8)

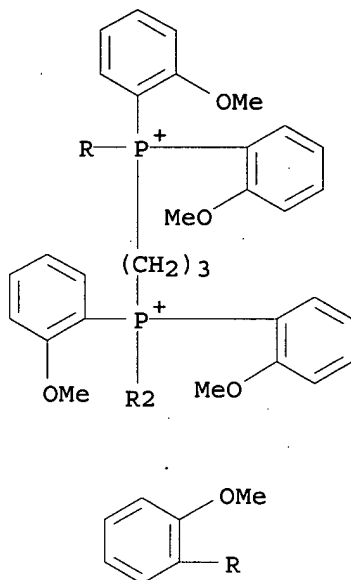


● 2 I⁻

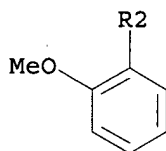
- 1 REFERENCES IN FILE CA (1907 TO DATE)
- 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

RN 129318-44-1 REGISTRY
 ED Entered STN: 14 Sep 1990
 CN Phosphonium, 1,3-propanediylbis[tris(2-methoxyphenyl)-, dibromide (9CI)
 (CA INDEX NAME)
 MF C45 H48 O6 P2 . 2 Br
 SR CA
 LC STN Files: CA, CAPLUS
 CRN (779291-47-3)

PAGE 1-A



PAGE 2-A

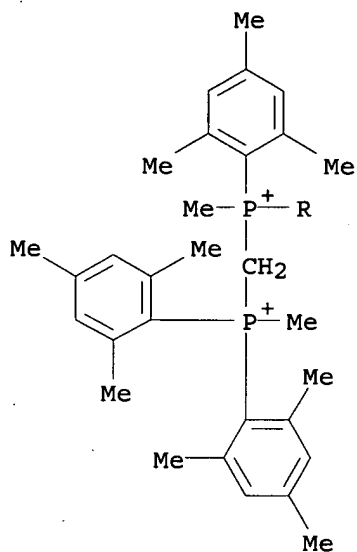


● 2 Br⁻

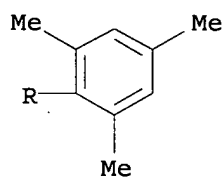
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 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

RN 705243-62-5 REGISTRY
 ED Entered STN: 06 Jul 2004
 CN Phosphonium, methylenebis[methylbis(2,4,6-trimethylphenyl)- (9CI) (CA
 INDEX NAME)
 MF C39 H52 P2
 CI COM
 SR CA

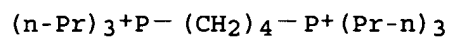
PAGE 1-A



PAGE 2-A



RN 768318-30-5 REGISTRY
ED Entered STN: 24 Oct 2004
CN Phosphonium, 1,4-butanediylbis(tripropyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C22 H50 P2
CI COM
SR CA



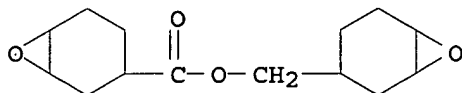
RN 25085-98-7 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, homopolymer (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, polymers (8CI)
 OTHER NAMES:
 CN (3',4'-Epoxy cyclohexane) methyl-3,4-epoxycyclohexane carboxylic acid homopolymer
 CN (3,4-Epoxy cyclohexyl)methyl 3,4-epoxycyclohexylcarboxylate polymer
 CN 3,4-Epoxy cyclohexylmethyl 3',4'-epoxycyclohexanecarboxylate polymer
 CN 3,4-Epoxy cyclohexylmethyl 3,4-epoxycyclohexanecarboxylate homopolymer
 CN 3,4-Epoxy cyclohexylmethyl 3,4-epoxycyclohexanecarboxylate polymer
 CN 3,4-Epoxy cyclohexylmethyl 3,4-epoxycyclohexanecarboxylate resin
 CN 3,4-Epoxy cyclohexylmethyl-3',4'-epoxycyclohexanecarboxylate homopolymer
 CN Adeka Optomer ERL 4221
 CN Adeka Optomer KRM 2110
 CN Araldite CY 179
 CN Araldite CY 179MA
 CN Bakelite ERL 4221
 CN Bakelite ERL 4221G
 CN Bakelite ERL 4421
 CN CEL 2021P
 CN Celloxide 2021
 CN Celloxide 2021A
 CN Celloxide 2021P
 CN Celloxide 2201
 CN CH 221
 CN Chissonox 221
 CN Chissonox CX 221
 CN CP 1608
 CN CX 221
 CN CY 179
 CN Cyclomer 2021P
 CN Cyacure 6110
 CN Cyacure UVI 6110
 CN Cyacure UVR 1500
 CN Cyacure UVR 6100
 CN Cyacure UVR 6105
 CN Cyacure UVR 6110
 CN Degacure K 126
 CN Degussa 126
 CN Diepoxid 126
 CN Epikote 171
 CN Epikote 171D
 CN ER 4221
 CN ERL 4211
 CN ERL 4221
 CN ERL 4221D
 CN ERL 4221E
 CN ERL 4421
 CN ERL 4421E
 CN ERLA 4221
 CN K 126
 CN KRM 2110
 CN Nanopox XP 22/0314
 CN Poly[(3,4-epoxycyclohexyl)methyl 3,4-epoxycyclohexanecarboxylate]
 ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for DISPLAY
 DR 620963-33-9, 9083-95-8, 11120-79-9, 125053-37-4, 121396-47-2, 129773-39-3, 95078-13-0, 95078-14-1, 50809-37-5, 50861-60-4, 61489-54-1, 65430-69-5, 111483-58-0, 137607-28-4, 146123-76-4, 30350-17-5, 39354-66-0, 52725-58-3, 189201-55-6, 216496-08-1, 251369-29-6, 299423-35-1

MF (C14 H20 O4)x
CI PMS, COM
PCT Epoxy resin, Polyester
LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CHEMLIST, CIN, IFICDB, IFIPAT,
IFIUDB, PROMT, TOXCENTER, USPAT2, USPATFULL
Other Sources: NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

CM 1

CRN 2386-87-0

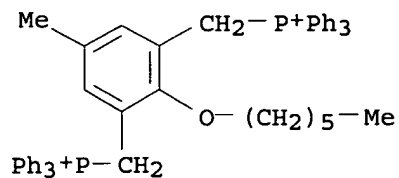
CMF C14 H20 O4



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2305 REFERENCES IN FILE CA (1907 TO DATE)
188 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2308 REFERENCES IN FILE CAPLUS (1907 TO DATE)

RN 610312-93-1 REGISTRY
 ED Entered STN: 29 Oct 2003
 CN Phosphonium, [[2-(hexyloxy)-5-methyl-1,3-phenylene]bis(methylene)]bis[triphenyl-, dibromide (9CI) (CA INDEX NAME)
 MF C51 H52 O P2 . 2 Br
 CI COM
 SR CA
 LC STN Files: CA, CAPLUS
 CRN (790206-00-7)



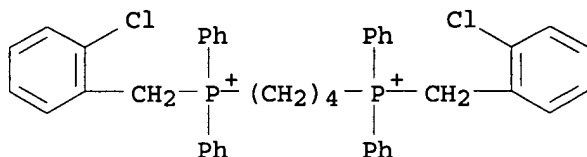
● 2 Br⁻

2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

RN 672289-95-1 REGISTRY
 ED Entered STN: 07 Apr 2004
 CN Phosphonium, 1,4-butanediylbis[[2-chlorophenyl)methyl]diphenyl-,
 bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)
 MF C42 H40 Cl2 P2 . 2 F6 Sb
 SR CA
 LC STN Files: CA, CAPLUS

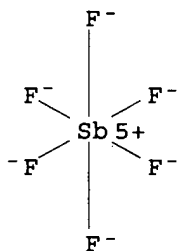
CM 1

CRN 672289-94-0
 CMF C42 H40 Cl2 P2



CM 2

CRN 17111-95-4
 CMF F6 Sb
 CCI CCS



1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: ROBERT SELLERS Examiner #: 61475 Date: 1/17/06
Art Unit: _____ Phone Number 800 571-272-1093 Serial Number: 10/725,440
Mail Box and Bldg/Room Location: 10A55 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: EPOXY RESIN COMPOSITION

Inventors (please provide full names): YUJI OKADA

Earliest Priority Filing Date: 12/6/2002 (JP 2002-355283)

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

PLEASE IDENTIFY CHEMICAL ABSTRACTS
REGISTRY NOS. FOR THE ATTACHED
TETRAORGANO PHOSPHONIUM COMPOUNDS
(SPECIFICATION; PAGE 32).

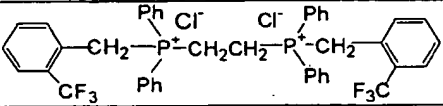
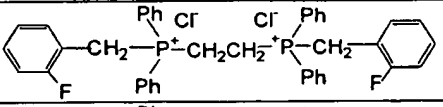
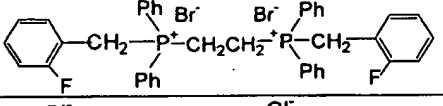
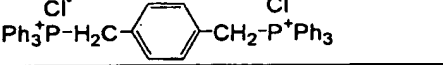
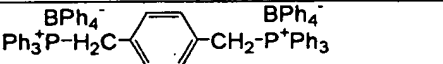
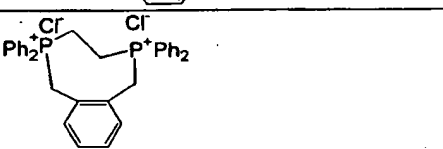
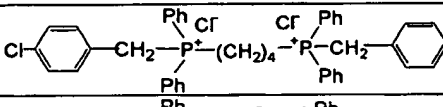
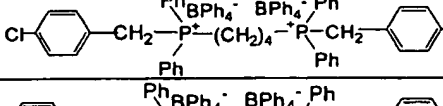
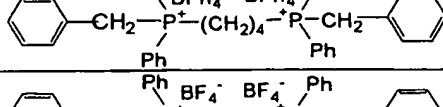
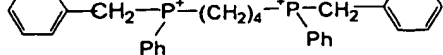
STAFF USE ONLY

| | Type of Search | Vendors and cost where applicable |
|--|-----------------------|-----------------------------------|
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| Searcher Phone #: _____ | AA Sequence (#) _____ | Dialog _____ |
| Searcher Location: _____ | Structure (#) _____ | Questel/Orbit _____ |
| Date Searcher Picked Up: _____ | Bibliographic _____ | Dr.Link _____ |
| Date Completed: <u>1/18/06</u> | Litigation _____ | Lexis/Nexis _____ |
| Searcher Prep & Review Time: <u>20</u> | Fulltext <u>-</u> | Sequence Systems _____ |
| Clerical Prep Time: _____ | Patent Family _____ | WWW/Internet _____ |
| Online Time: <u>30</u> | Other _____ | Other (specify) _____ |

Polymerization Examples 1-10

The epoxy resin composition consisting of Celloxide 2021p/RIKACID MH700/ethylene glycol/catalyst =100/100/2/1 by weight ratio was put into the board-like mold 5 (60mmx50mmx3mm), and hardened with heating under the conditions shown in Table 1 to give each hardened resin.

Table 1

| Polymerization Example | Catalyst | Polymerization Temperature | Reaction Time |
|------------------------|---|----------------------------|---------------|
| 709640-47-1 ✓ |  | 100 °C | 2 hr |
| 709640-48-2 ✓ |  | 100 °C | 2 hr |
| 709640-49-3 ✓ |  | 100 °C | 2 hr |
| 1319-47-7 ✓ |  | 90 °C | 2 hr |
| 31586-93-3 ✓ Ogata |  | 130 °C | 2 hr |
| 709640-50-6 ✓ |  | 100 °C | 2 hr |
| 709640-51-7 ✓ |  | 90 °C | 2 hr |
| 709640-52-8 ✓ |  | 130 °C | 2 hr |
| 709640-46-0 ✓ |  | 130 °C | 2 hr |
| 709640-53-9 ✓ |  | 130 °C | 2 hr |



STIC Search Report

EIC 1700

STIC Database Tracking Number: 176776

TO: Robert Sellers
Location: REM 10A55
Art Unit : 1712
January 18, 2006

Case Serial Number: 10/725440

From: Mei Huang
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3952
Mei.huang@uspto.gov

Search Notes

Examiner Sellers,

If you have any questions or if you would like to refine the search query, please feel free to contact me.

Thank you for using STIC services!

Mei Huang



=> fil reg

FILE 'REGISTRY' ENTERED AT 10:40:02 ON 18 JAN 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2006 American Chemical Society (ACS)

=> d his

(FILE 'HOME' ENTERED AT 10:04:14 ON 18 JAN 2006)

FILE 'HCAPLUS' ENTERED AT 10:04:23 ON 18 JAN 2006
E US20040122208/PN

L1 1 S E3
SEL RN

FILE 'REGISTRY' ENTERED AT 10:05:01 ON 18 JAN 2006

L2 12 S E1-12

FILE 'HCAPLUS' ENTERED AT 10:05:29 ON 18 JAN 2006

L3 1 S L1 AND L2
L4 88 S L2

FILE 'REGISTRY' ENTERED AT 10:40:02 ON 18 JAN 2006

=> d 12 1-12 fide

L2 ANSWER 1 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN
RN 709640-53-9 REGISTRY #10 in Table 1
ED Entered STN: 14 Jul 2004
CN Phosphonium, 1,4-butanediylbis[diphenyl(phenylmethyl)-,
bis[tetrafluoroborate(1-)] (9CI) (CA INDEX NAME)
MF C42 H42 P2 . 2 B F4
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA Cplus document type: Patent
RL.P Roles from patents: USES (Uses)

Ring System Data

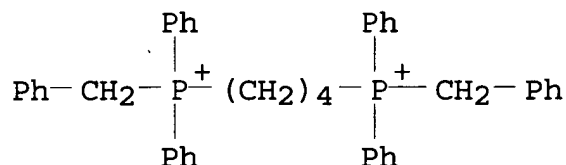
| Elemental Analysis | Elemental Sequence | Size of the Rings | Ring System Formula | Ring Identifier | RID Occurrence |
|-------------------------------------|-----------------------|----------------------|------------------------|--------------------|-------------------|
| EA | ES | SZ | RF | RID | Count |
| =====+=====+=====+=====+=====+===== | | | | | |

| | | | | | |
|----|----|---|----|-----------|---------|
| C6 | C6 | 6 | C6 | 46.150.18 | 6 in CM |
| | | | | | 1 |

CM 1

CRN 672289-91-7

CMF C42 H42 P2

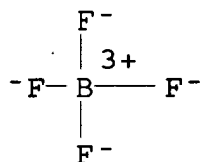


CM 2

CRN 14874-70-5

CMF B F4

CCI CCS



1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 2 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN

RN ~~709640-52-8~~ REGISTRY #8

ED Entered STN: 14 Jul 2004

CN Phosphonium, 1,4-butanediylbis[[(4-chlorophenyl)methyl]diphenyl-,
bis[tetraphenylborate(1-)] (9CI) (CA INDEX NAME)

MF C42 H40 Cl2 P2 . 2 C24 H20 B

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA Caplus document type: Patent

RL.P Roles from patents: USES (Uses)

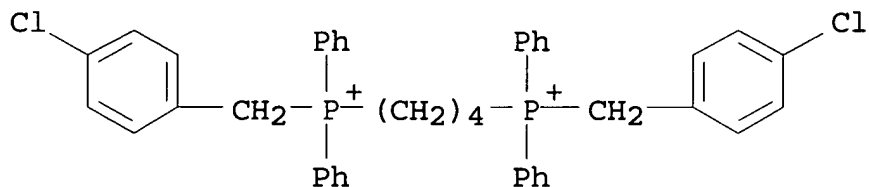
Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| ===== | ===== | ===== | ===== | ===== | ===== |
| C6 | C6 | 6 | C6 | 46.150.18 | 6 in CM 1 4 in CM 2 |

CM 1

CRN 672289-89-3

CMF C42 H40 Cl2 P2

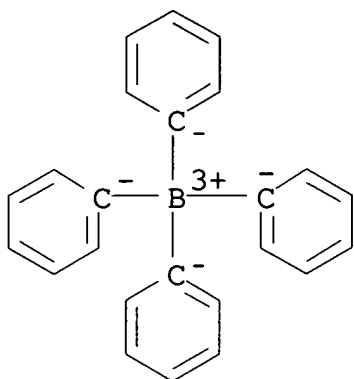


CM 2

CRN 4358-26-3

CMF C24 H20 B

CCI CCS



1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 3 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN

RN 709640-51-7 REGISTRY

ED Entered STN: 14 Jul 2004

CN Phosphonium, 1,4-butanediylbis[[(4-chlorophenyl)methyl]diphenyl-,
dichloride (9CI) (CA INDEX NAME)

MF C42 H40 Cl2 P2 . 2 Cl

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

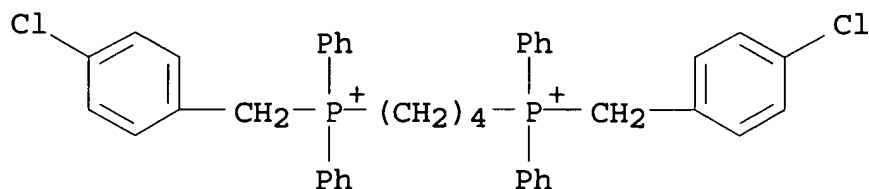
DT.CA CAplus document type: Patent

RL.P Roles from patents: USES (Uses)

CRN (672289-89-3)

Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| C6 | C6 | 6 | C6 | 46.150.18 | 6 |



● 2 Cl⁻

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 4 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN

RN ~~709640-50-6~~ REGISTRY

ED Entered STN: 14 Jul 2004

CN 2,5-Benzodiphosphocininium, 1,2,3,4,5,6-hexahydro-2,2,5,5-tetraphenyl-, dichloride (9CI) (CA INDEX NAME)

MF C34 H32 P2 . 2 Cl

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

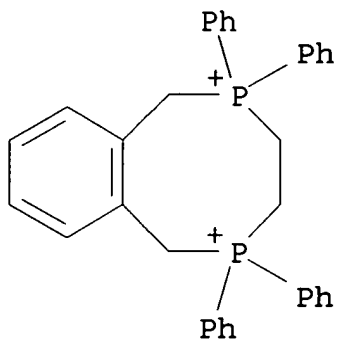
DT.CA CAplus document type: Patent

RL.P Roles from patents: USES (Uses)

CRN (47770-36-5)

Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| C6 | C6 | 6 | C6 | 46.150.18 | 4 |
| C6-C6P2 | C6-PC2PC4 | 6-8 | C10P2 | 1401.24.1 | 1 |



●2 Cl⁻

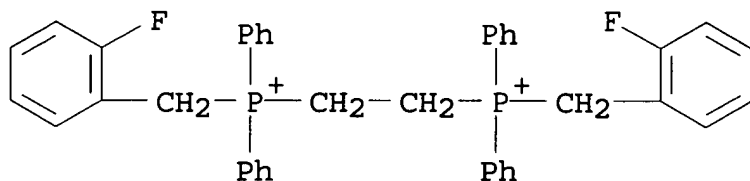
1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 5 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 709640-49-3 REGISTRY
 ED Entered STN: 14 Jul 2004 #3
 CN Phosphonium, 1,2-ethanediylbis[[(2-fluorophenyl)methyl]diphenyl-,
 dibromide (9CI) (CA INDEX NAME)
 MF C40 H36 F2 P2 . 2 Br
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL
 DT.CA CAplus document type: Patent
 RL.P Roles from patents: USES (Uses)
 CRN (672289-56-4)

Ring System Data

| Elemental Analysis | Elemental Sequence | Size of the Rings | Ring System Formula | Ring Identifier | RID Occurrence |
|-----------------------|-----------------------|----------------------|------------------------|--------------------|-------------------|
| EA | ES | SZ | RF | RID | Count |
| ===== | ===== | ===== | ===== | ===== | ===== |
| C6 | C6 | 6 | C6 | 46.150.18 | 6 |



● 2 Br⁻

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 6 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN

RN ~~709640-48-2~~ REGISTRY

ED Entered STN: 14 Jul 2004

CN Phosphonium, 1,2-ethanediylbis[[(2-fluorophenyl)methyl]diphenyl-,
dichloride (9CI) (CA INDEX NAME)

MF C40 H36 F2 P2 . 2 Cl

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

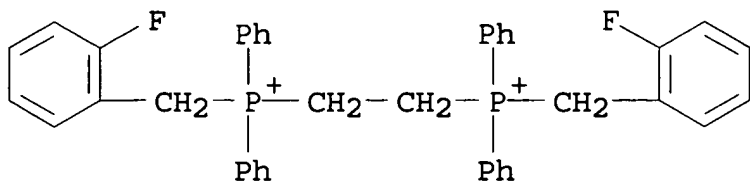
DT.CA Cplus document type: Patent

RL.P Roles from patents: USES (Uses)

CRN (672289-56-4)

Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| ===== | ===== | ===== | ===== | ===== | ===== |
| C6 | C6 | 6 | C6 | 46.150.18 | 6 |



●2 Cl⁻

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 7 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN

RN 709640-47-1 REGISTRY

ED Entered STN: 14 Jul 2004

CN Phosphonium, 1,2-ethanediylbis[diphenyl[[2-(trifluoromethyl)phenyl]methyl]-, dichloride (9CI) (CA INDEX NAME)

MF C42 H36 F6 P2 . 2 Cl

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

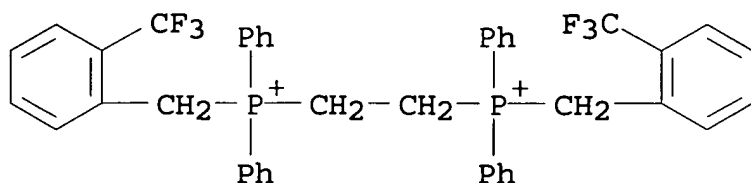
DT.CA CAplus document type: Patent

RL.P Roles from patents: USES (Uses)

CRN (672289-79-1)

Ring System Data

| Elemental Analysis | Elemental Sequence | Size of the Rings | Ring System Formula | Ring Identifier | RID Occurrence |
|-----------------------|-----------------------|----------------------|------------------------|--------------------|-------------------|
| EA | ES | SZ | RF | RID | Count |
| ===== | ===== | ===== | ===== | ===== | ===== |
| C6 | C6 | 6 | C6 | 46.150.18 | 6 |



●2 Cl⁻

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 8 OF 12. REGISTRY COPYRIGHT 2006 ACS on STN

RN 709640-46-0 REGISTRY

ED Entered STN: 14 Jul 2004

CN Phosphonium, 1,4-butanediylbis[diphenyl(phenylmethyl)-, bis[tetraphenylborate(1-)] (9CI) (CA INDEX NAME)

MF C42 H42 P2 . 2 C24 H20 B

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA Caplus document type: Patent

RL.P Roles from patents: USES (Uses)

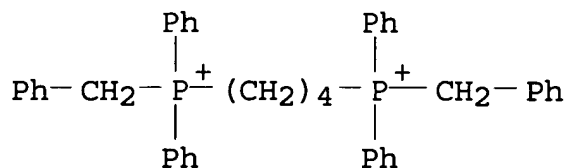
Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| C6 | C6 | 6 | C6 | 46.150.18 | 6 in CM 1 4 in CM 2 |

CM 1

CRN 672289-91-7

CMF C42 H42 P2

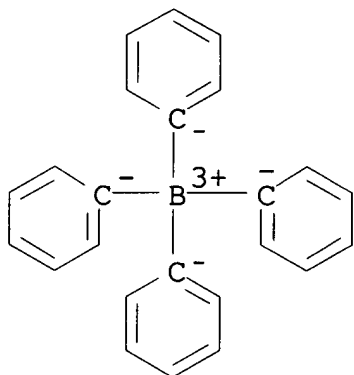


CM 2

CRN 4358-26-3

CMF C24 H20 B

CCI CCS



1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 9 OF 12 REGISTRY. COPYRIGHT 2006 ACS on STN

RN 636588-29-9 REGISTRY

ED Entered STN: 12 Jan 2004

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-,
polymer with hexahydro-1,3-isobenzofurandione and
hexahydro-5-methyl-1,3-isobenzofurandione (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Rikacid MH 700-TEPIC copolymer

CN Rikacid MH 700-triglycidyl isocyanurate copolymer

MF (C12 H15 N3 O6 . C9 H12 O3 . C8 H10 O3)x

CI PMS

PCT Epoxy resin, Polyester, Polyester formed, Polyisocyanurate

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA CAPLUS document type: Patent

RL.P Roles from patents: PREP (Preparation); PRP (Properties); USES (Uses)

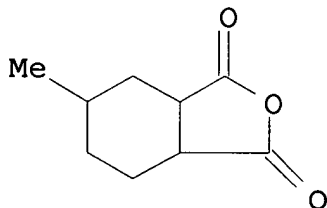
Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| C4O-C6 | OC4-C6 | 5-6 | C8O | 333.84.1 | 1 in CM 1 1 in CM 3 |
| C2O | OC2 | 3 | C2O | 1.30.1 | 3 in CM 2 |
| C3N3 | NCNCNC | 6 | C3N3 | 46.492.1 | 1 in CM 2 |

CM 1

CRN 19438-60-9

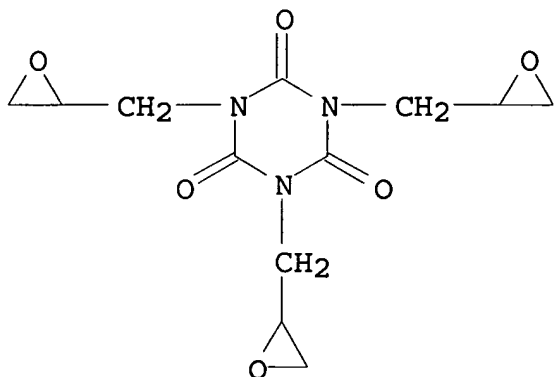
CMF C9 H12 O3



CM 2

CRN 2451-62-9

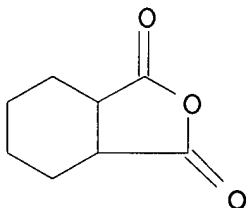
CMF C12 H15 N3 O6



CM 3

CRN 85-42-7

CMF C8 H10 O3



12 REFERENCES IN FILE CA (1907 TO DATE)

12 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 10 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN
RN **481042-20-0** REGISTRY
ED Entered STN: 24 Jan 2003
CN 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 7-oxabicyclo[4.1.0]hept-3-ylmethyl ester, polymer with hexahydro-1,3-isobenzofurandione and hexahydro-5-methyl-1,3-isobenzofurandione (9CI) (CA INDEX NAME)

OTHER NAMES:

CN ERL 4221-Rikacid MH 700 copolymer
MF (C14 H20 O4 . C9 H12 O3 . C8 H10 O3)x
CI PMS
PCT Epoxy resin, Polyester, Polyester formed
SR CA

LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

DT.CA Caplus document type: Journal; Patent

RL.P Roles from patents: PREP (Preparation); PRP (Properties); USES (Uses)

RL.NP Roles from non-patents: PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

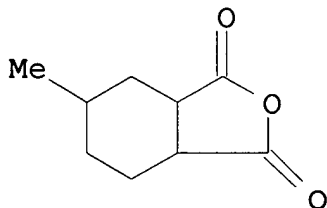
Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| ===== | ===== | ===== | ===== | ===== | ===== |
| C4O-C6 | OC4-C6 | 5-6 | C8O | 333.84.1 | 1 in CM 1 1 in CM 3 |
| C2O-C6 | OC2-C6 | 3-6 | C6O | 106.32.1 | 2 in CM 2 |

CM 1

CRN 19438-60-9

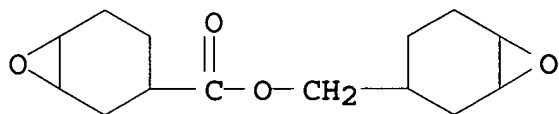
CMF C9 H12 O3



CM 2

CRN 2386-87-0

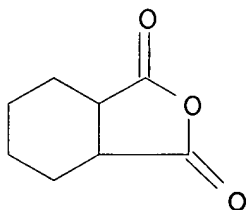
CMF C14 H20 O4



CM 3

CRN 85-42-7

CMF C8 H10 O3



Experimental Properties (EPROP)

| PROPERTY (CODE) | VALUE | NOTE |
|-----------------------------------|-----------|---------|
| Glass Transition Temperature (TG) | 191 deg C | (1) CAS |

- (1) Huang, Jan-Chan; Advances in Polymer Technology 2004 V23(4)
P298-306 CAPLUS

See HELP PROPERTIES for information about property data sources in
REGISTRY.

6 REFERENCES IN FILE CA (1907 TO DATE)

6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 11 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN

RN 31586-93-3 REGISTRY

ED Entered STN: 16 Nov 1984

#5

CN Phosphonium, [1,4-phenylenebis(methylene)]bis[triphenyl-,
bis[tetraphenylborate(1-)] (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Phosphonium, (p-phenylenedimethylene)bis[triphenyl-,
bis[tetraphenylborate(1-)] (8CI)

MF C44 H38 P2 . 2 C24 H20 B

LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL

DT.CA CAPLUS document type: Patent

RL.P Roles from patents: USES (Uses)

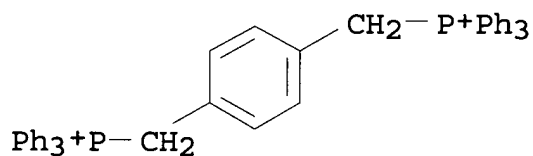
Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| ===== | ===== | ===== | ===== | ===== | ===== |
| C6 | C6 | 6 | C6 | 46.150.18 | 7 in CM 1 4 in CM 2 |

CM 1

CRN 47861-49-4

CMF C44 H38 P2

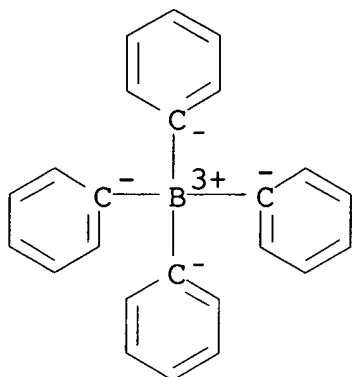


CM 2

CRN 4358-26-3

CMF C24 H20 B

CCI CCS



2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L2 ANSWER 12 OF 12 REGISTRY COPYRIGHT 2006 ACS on STN

RN 1519-47-7 REGISTRY

ED Entered STN: 16 Nov 1984

4

CN Phosphonium, [1,4-phenylenebis(methylene)]bis[triphenyl-, dichloride (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN (p-Phenylenedimethylene)bis[triphenylphosphonium chloride] (6CI, 7CI)

CN Phosphonium, (p-phenylenedimethylene)bis[triphenyl-, dichloride (8CI)

OTHER NAMES:

CN 1,4-Bis(triphenylphosphonium)-p-xylene dichloride

CN 1,4-Xylylenebis(triphenylphosphonium chloride)

CN NSC 64113

CN p-Xylylene bis(triphenylphosphonium chloride)

CN p-Xylylenebis(triphenylphosphonium) dichloride

DR 130547-46-5, 150998-51-9

MF C44 H38 P2 . 2 Cl

CI COM

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSChem, IFICDB, IFIPAT, IFIUDB, RTECS*, USPAT2, USPATFULL

(*File contains numerically searchable property data)

Other Sources: EINECS**, NDSL**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Journal; Patent

RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

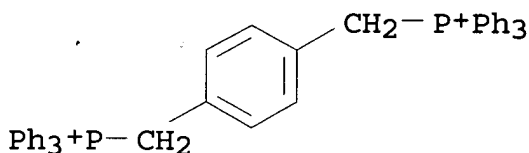
RL.NP Roles from non-patents: ANST (Analytical study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: PREP (Preparation); PROC (Process); PRP (Properties)

CRN (47861-49-4)

Ring System Data

| Elemental Analysis EA | Elemental Sequence ES | Size of the Rings SZ | Ring System Formula RF | Ring Identifier RID | RID Occurrence Count |
|-----------------------------|-----------------------------|----------------------------|------------------------------|---------------------------|----------------------------|
| ===== | ===== | ===== | ===== | ===== | ===== |
| C6 | C6 | 6 | C6 | 46.150.18 | 7 |



● 2 Cl⁻

Experimental Property Tags (ETAG)

| PROPERTY | NOTE |
|-------------|---------|
| ===== | ===== |
| NMR Spectra | (1) CAS |

(1) Sun, Qunhui; European Polymer Journal 2005 V41(3) P481-489 CAPLUS

See HELP PROPERTIES for information about property data sources in REGISTRY.

71 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
71 REFERENCES IN FILE CAPLUS (1907 TO DATE)
7 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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